

**REMARKS**

Claims 1-3, 5-15, 38, 40-44, 46-55, 83-91, 93-99, 127, 128, 130-136, 164-181, 211-217 and 247-253 were pending in the application. Claims 1-3, 5-14, 38, 40-44, 46-52, 54, 83-91, 93-99, 127, 128, 130-136, 166-181, 211-217 and 247 have been cancelled without prejudice and claims 15, 53, 164 and 165 have been amended. Therefore, upon entry of this paper, claims 15, 53, 164 and 165 will be pending.

Claims 15 and 53 have been rewritten in independent form. Support for the amendments to claim 53 may be found, for example, at least at page 6 of the specification as originally filed. Claim 165 has been amended to provide proper dependencies. No new matter has been added.

The foregoing claim cancellations and amendments should in no way be construed as an acquiescence to any of the Examiner's objections and/or rejections, and have been made solely to expedite prosecution of the present application. Applicants reserve the option to further prosecute the same or similar claims in the present or another patent application. No new matter has been added.

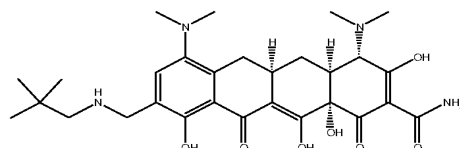
Applicants thank the Examiner for the telephonic interview with Applicants' Attorney and Agent on December 9, 2008.

***Rejection of Claims 1-3, 5-15, 38, 40-44, 46-55, 83-99, 127, 128, 130-136, 164-181, 211-217 and 247-253 on the Ground of Nonstatutory Obviousness-type Double Patenting***

Claims 1-3, 5-15, 38, 40-44, 46-55, 83-99, 127, 128, 130-136, 164-181, 211-217 and 247-253 are rejected on the ground of nonstatutory obviousness-type double patenting as allegedly being unpatentable over the claims of U.S. Patent No. 7,045,507 (hereinafter "the '507 patent"). In particular, the Examiner asserts that "[a]lthough the conflicting claims are not identical, they are not patentable distinct from each other because [the] claims are generically taught by the issued patent."

Without acquiescing to the Examiner's characterization of the claims and solely in an effort to expedite prosecution, Applicants note that claims 1-3, 5-14, 38, 40-44, 46-52, 54, 83-99, 127, 128, 130-136, 166-181, 211-217 and 247-253 have been cancelled, thus rendering this rejection moot as it pertains to these claims.

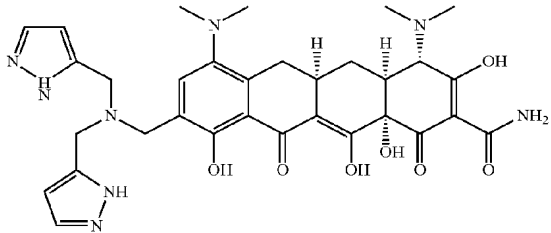
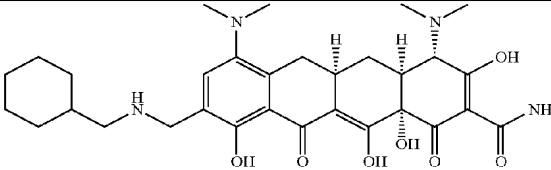
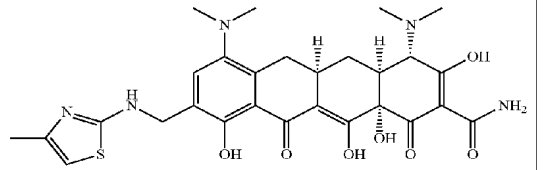
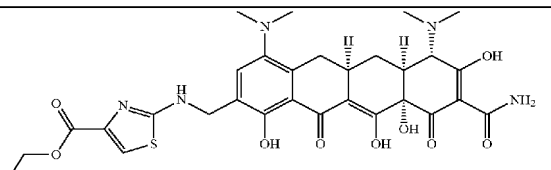
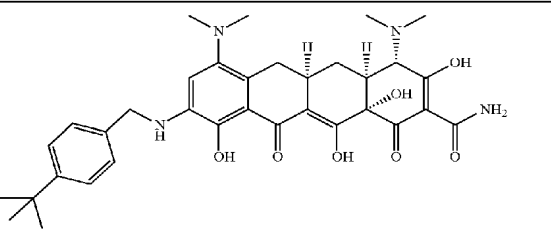
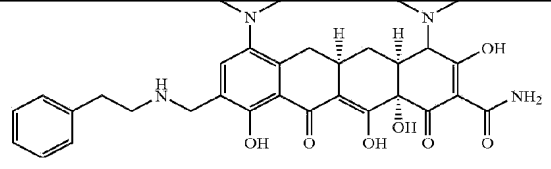
With respect to claims 15, 53, 164 and 165, Applicants respectfully traverse. Specifically, the currently pending claims are directed to a compound of the formula:

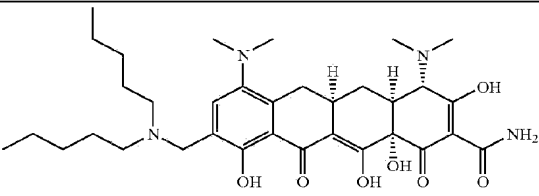
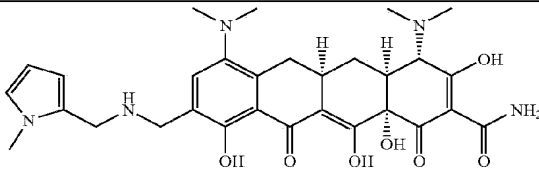
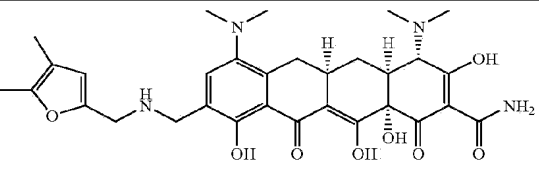
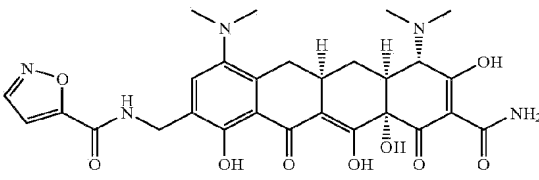
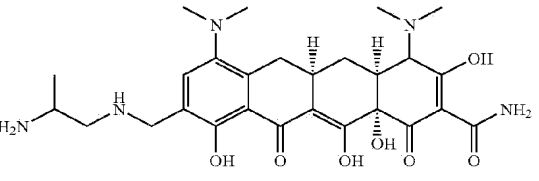
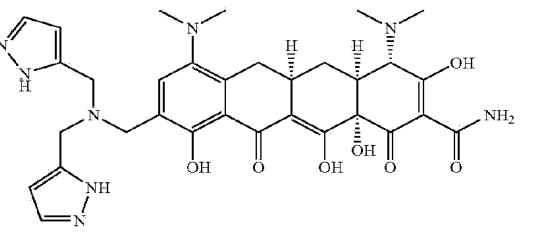


and pharmaceutical compositions of the same.

In contrast, the claims of the '507 patent are directed to methods for treating fungal associated disorders. Specifically, the Examiner points to the compounds set forth in the following Table below:

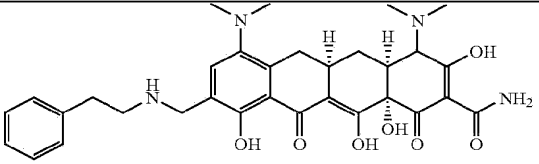
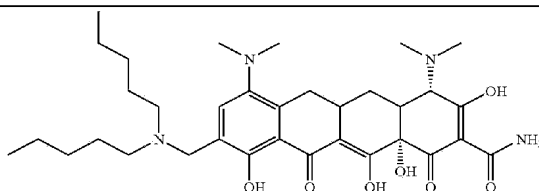
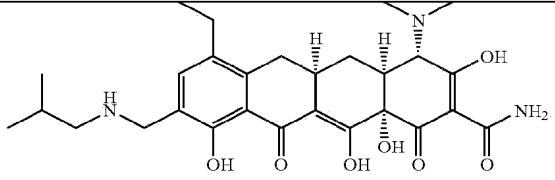
1		Column 94, compound AR
2		Column 129, compound DB
3		Column 395, compound SK
4		Column 398, compound SP

5		Column 406, compound TA
6		Column 406, compound TB
7		Column 408, compound TE
8		Column 408, compound TF
9		Column 418, compound TX
10		Column 533, lines 10-15

11		Column 534, lines 45-50
12		Column 565, lines 50-60
13		Column 566, lines 30-40
14		Column 568, lines 1-10
15		Column 568, lines 10-20
16		Column 568, lines 20-30

17		Column 568, lines 30-40
18		Column 568, lines 40-50
19		Column 568, lines 50-60
20		Column 568, lines 60-70
21		Column 569, lines 20-30
22		Column 570, lines 10-20

23		Column 571, lines 10-20
24		Column 571, lines 30-40
25		Column 573, lines 55-65
26		Column 581, third compound
27		Column 591, second compound
28		Column 591, fourth compound

29		Column 594, second compound
30		Column 595, second compound
31		Column 601, last compound

Applicants respectfully submit that the claims of the '507 patent fail to teach or suggest the compounds as currently claimed. In particular, with respect to the compounds that the Examiner has referred to, Applicants note that entries 1, 2, 9, 23, 24 and 28 in the above Table are *substituted at the R<sup>9</sup> position with an amino moiety, whereas the currently claimed compounds have an aminomethyl moiety at the R<sup>9</sup> position (e.g., in claims 15, 53, 164 and 165, the linkage of the R<sup>9</sup> moiety to the tetracycline ring is a carbon-carbon linkage rather than a nitrogen-carbon linkage as in entries 1, 2, 9, 23, 24 and 28 above)*. Further, although entries 17, 27 and 31 have an aminomethyl moiety at the R<sup>9</sup> position, *each of these compounds has a moiety other than dimethylamino at the R<sup>7</sup> position*, as required in the currently claimed compounds. With respect to the remaining compounds, *none of these compounds comprise a tert-butyl methyl substituted aminomethyl moiety at the R<sup>9</sup> position (e.g., (CH<sub>3</sub>)<sub>3</sub>CH<sub>2</sub>NHCH<sub>2</sub>-)*. Neither would a skilled artisan, in view of the claims of the '507 patent and the prior art, have had a reason to select the tert-butyl methyl substituted aminomethyl moiety at the R<sup>9</sup> position from the plethora of substituents of the compounds disclosed for use in the methods of the claims of the '507 patent.

Accordingly, one of ordinary skill in the art, in view of general knowledge or prior teachings in the art, would not have found any motivation or reason to modify the compounds disclosed in the claims of the '507 patent (*e.g.*, for treatment of fungal disorders) to arrive at the currently claimed compounds and pharmaceutical compositions. Therefore, based at least on the foregoing, Applicants respectfully request reconsideration and withdrawal of this rejection.

***Provisional Rejection of Claims 1-3, 5-15, 38, 40-44, 46-55, 83-99, 127, 128, 130-136, 164-181, 211-217 and 247-253 on the Ground of Nonstatutory Obviousness-type Double Patenting***

Claims 1-3, 5-15, 38, 40-44, 46-55, 83-99, 127, 128, 130-136, 164-181, 211-217 and 247-253 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 24, 25, 26 and 29-39 of copending Application No. 11/490,867 (hereinafter "the '867 application"). Specifically, the Examiner is of the opinion that "[a]lthough the conflicting claims are not identical, they are not patentably distinct from each other because R9 in [the] copending application can be alkyl amino which has been claimed in the present application."

Without acquiescing to the Examiner's characterization of the claims and solely in an effort to expedite prosecution, Applicants note that claims 1-3, 5-14, 38, 40-44, 46-52, 54, 83-99, 127, 128, 130-136, 166-181, 211-217 and 247-253 have been cancelled, thus rendering this rejection moot as it pertains to these claims.

With respect to claims 15, 53, 164 and 165, while in no way admitting that these claims are the same or obvious over claims 24, 25, 26 and 29-39 of the '867 application, upon allowance of the '867 application, Applicants will consider submitting a terminal disclaimer in compliance with 37 C.F.R. 1.321(b) and (c), if appropriate, which will obviate the rejection.

***Provisional Rejection of Claims 1-3, 5-15, 38, 40-44, 46-55, 83-99, 127, 128, 130-136, 164-181, 211-217 and 247-253 on the Ground of Nonstatutory Obviousness-type Double Patenting***

Claims 1-3, 5-15, 38, 40-44, 46-55, 83-99, 127, 128, 130-136, 164-181, 211-217 and 247-253 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over co-pending Application Nos. 11/330,700 (claims 24-26 and 29-39); 10/692,764; 10/877,928; 10/921,580; 10/943,571; 10/996,119; 11/039,230; 11/348,608;



11/490,867; 11/810,336 and 11/803,854. In particular, the Examiner asserts that “[a]lthough the conflicting claims are not identical, they are not patentably distinct from each other because each encompass 9-aminomethyl tetracycline compounds as defined by the instant claims.”

Without acquiescing to the Examiner’s characterization of the claims and solely in an effort to expedite prosecution, Applicants note that claims 1-3, 5-14, 38, 40-44, 46-52, 54, 83-99, 127, 128, 130-136, 166-181, 211-217 and 247-253 have been cancelled, thus rendering this rejection moot as it pertains to these claims.

With respect to claims 15, 53, 164 and 165, while in no way admitting that these claims are the same or obvious over co-pending Application Nos. 11/330,700 (claims 24-26 and 29-39); 10/692,764; 10/877,928; 10/921,580; 10/943,571; 10/996,119; 11/039,230; 11/348,608; 11/490,867; 11/810,336 and 11/803,854, upon allowance of the any of the aforementioned applications, Applicants will consider submitting a terminal disclaimer in compliance with 37 C.F.R. 1.321(b) and (c), if appropriate, which will obviate the rejection.

***Rejection of Claims 1-3, 5-15, 38, 40-44, 46-55, 83-91, 93-99, 127-136, 163-181, 211-217 and 247-253 under 35 U.S.C. §112, first paragraph***

Claims 1-3, 5-15, 38, 40-44, 46-55, 83-91, 93-99, 127-136, 163-181, 211-217 and 247-253 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement.

***Prodrug***

The Examiner is of the opinion that the term “prodrug” as defined “is complex and may ‘include’ thousands of known and unknown compounds” and further asserts that “[t]he definition is too broad.”

With respect to claims 164-181, 211-217 and 247-253, Applicants respectfully submit that these claims fail to encompass the term “prodrug.” Therefore, this rejection does not pertain to the aforementioned claims. However, without acquiescing to the Examiner’s characterization of the claims and solely in an effort to expedite prosecution, Applicants note that claims 1-3, 5-14, 38, 40-44, 46-52, 54, 83-99, 127, 128, 130-136, 166-181, 211-217 and 247-253 have been cancelled, thus rendering this rejection moot as it pertains to these claims.

With respect to claims 15 and 53, without acquiescing to this rejection, Applicants have amended these claims to remove the term “prodrug.” Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

**Bacterial Infection**

The Examiner asserts that the term “treating bacterial infection” is not in the specification and that “[t]he tetracycline compounds as disclosed in the specification are to be useful for the treatment of some bacteria and not all of them.”

Applicants note that claims 1-3, 5-15, 48-55, 127, 128, 130-136, 164, 165, 174-181 and 247-253 are directed to composition of matter, and therefore, this rejection does not pertain to the aforementioned claims.

With respect to claims, 38, 40-44, 46, 47, 83-91, 93-99, 166-173 and 211-217, Applicants respectfully disagree. According to MPEP §2163.02, “[a]n objective standard for determining compliance with the written description requirement is, ‘does the description clearly allow persons of ordinary skill in the art to recognize that he or she invented what is claimed.’ *In re Gosteli*, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989). Under *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991), to satisfy the written description requirement, ***an applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention, and that the invention, in that context, is whatever is now claimed.*** The test for sufficiency of support in a parent application is whether the disclosure of the application relied upon “reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter.” *Ralston Purina Co. v. Far-Mar-Co., Inc.*, 772 F.2d 1570, 1575, 227 USPQ 177, 179 (Fed. Cir. 1985) (quoting *In re Kaslow*, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983)).

From the outset, Applicants note that the instant specification clearly allows one of skill in the art to recognize that Applicants indeed had possession of the claimed methods for treating bacterial infections. Specifically, Applicants refer the Examiner to the specification at least at page 4, lines 10-15, page 19, lines 25-26, page 24, line 34 through page 25, line 11 and in original claims 39-45. Further, Applicants note that Example 2 provides a procedure for

determining the efficacy of the compounds of the invention and Table 1 provides the result of these assays. A skilled artisan would certainly understand that Applicants had not only synthesized the claimed compounds, but had also tested these compounds for efficacy.

Applicants further disagree with the Examiner's assertions that "[t]he tetracycline compounds as disclosed in the specification are disclosed to be useful for the treatment of some bacteria and not all of them." In support of this assertion, the Examiner refers to paragraph [00148], which states that "[t]he tetracycline compounds of the invention may also be used to treat infections traditionally treated with tetracycline compounds such as....a number of gram-positive and gram-negative bacteria....The tetracycline compounds may be used to treat infections of, *e.g.*, *K. pneumonia*, *Salmonella*, *E. hirae*, *A. baumannii*, *B. catarrhalis*, *H. influenza*, *P. aeruginosa*, *E. faecium*, *E.coli*, *S. aureus* or *E. faecalis*." However, Applicants note that this paragraph is solely an exemplification of the invention that does not limit the scope of the claims.

Based at least on the foregoing, a skilled artisan would have indeed recognized that Applicants had invented methods of treating bacterial infections with the compounds of the invention and, further, that the claimed methods were not limited to one specific bacteria, but any bacterial infection.

Notwithstanding, Applicants note that claims 38, 40-44, 46, 47, 83-91, 93-99, 166-173 and 211-217 have been cancelled solely to expedite prosecution, although Applicants reserve the option to further prosecute the same or similar claims in the present or another patent application. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

#### Associated

The Examiner asserts that "[t]he citation of 'bacterial infection associated with gram positive or gram negative bacteria' is not described" and that "[i]t is not known what is intended by 'associated' in the claims."

Applicants note that claims 1-3, 5-15, 38, 48-55, 83, 84, 93-99, 127, 128, 130-136, 164-166, 174-181, 211-217 and 247-253 fail to recite the term "associated," and therefore, this rejection does not pertain to the aforementioned claims.

With respect to claims 40-44, 46, 47, 85-91 and 167-173, Applicants respectfully disagree and direct the Examiner's attention to at least the following patents with the same language in the claims: U.S. Patent No. 6,818,634; U.S. Patent No. 6,818,635; U.S. Patent No. 6,846,939; U.S. Patent No. 6,849,615; U.S. Patent No. 7,094,806 and U.S. Patent No. 7,361,674.

Notwithstanding to foregoing, Applicants note that claims 40-44, 46, 47, 85-91 and 167-173 have been cancelled solely to expedite prosecution, although Applicants reserve the option to further prosecute the same or similar claims in the present or another patent application. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

### **SUMMARY**

In view of the amendments and remarks set forth above, it is respectfully submitted that this application is in condition for allowance. If there are any remaining issues or the Examiner believes that a telephone conversation with Applicants' Attorney would be helpful in expediting prosecution of this application, the Examiner is invited to call the undersigned at (617) 227-7400.

Dated: December 16, 2008

Respectfully submitted,

Electronic signature: /Elizabeth A. Hanley/  
Elizabeth A. Hanley, Esq.  
Registration No.: 33,505  
LAHIVE & COCKFIELD, LLP  
One Post Office Square  
Boston, Massachusetts 02109-2127  
(617) 227-7400  
(617) 742-4214 (Fax)  
Attorney For Applicants